



8998

ADVANCED BAKING AND  
PASTRIES (12D)

40S/40E/40M

A Baking and Pastry Arts Course



# 8998: ADVANCED BAKING AND PASTRIES (12D) 40S/40E/40M

## Course Description

This course is intended for students who are intending to pursue a career in baking and pastry arts. The emphasis is on specialty cakes, as well as chocolate, marzipan, and sugar decoration.

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**Goal 1:** Describe and apply appropriate **sanitation, health, and safety** practices as they apply to the baking and pastry arts.

**GLO 1.1:** Demonstrate appropriate **personal sanitation and hygiene** practices.

- SLO 12D.1.1.1: Demonstrate knowledge of proper handwashing practices.
  - SLO 12D.1.1.2: Demonstrate knowledge of correct dish and ware washing facilities and techniques, approved sanitizers, and proper utensil storage.
  - SLO 12D.1.1.3: Demonstrate the ability to adhere to the standards of dress, personal hygiene, and grooming for professional bakers.
  - SLO 12D.1.1.4: Demonstrate knowledge of proper personal hygiene practices.
  - SLO 12D.1.1.5: Demonstrate knowledge of types and uses of sanitizing agents such as chlorine-based and quaternary solutions.
  - SLO 12D.1.1.6: Demonstrate knowledge of sanitation specifications.
  - SLO 12D.1.1.7: Demonstrate knowledge of the importance of washing tools and equipment prior to sanitation.
  - SLO 12D.1.1.8: Demonstrate knowledge of the importance of following sanitizing product instructions.
  - SLO 12D.1.1.9: Demonstrate knowledge of the importance of storing sanitized tools, equipment, and sanitizing agent.
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**GLO 1.2:** Demonstrate safe **food-handling** practices.

- SLO 12D.1.2.1: Demonstrate safe food-handling practices.
  - SLO 12D.1.2.2: Demonstrate the ability to identify common food allergies and determine appropriate substitutions.
  - SLO 12D.1.2.3: Demonstrate knowledge of holding temperature for different products.
  - SLO 12D.1.2.4: Demonstrate knowledge of cooling procedures.
  - SLO 12D.1.2.5: Demonstrate knowledge of holding time.
  - SLO 12D.1.2.6: Demonstrate the ability to prepare product for holding.
  - SLO 12D.1.2.7: Demonstrate the steps to prevent cross-contamination, chemical contamination, physical contamination, and contamination by allergens.
  - SLO 12D.1.2.8: Demonstrate the ability to practise preventative measures to avoid food-borne illnesses.
  - SLO 12D.1.2.9: Demonstrate knowledge of basic food microbiology.
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**GLO 1.3:** Create and maintain a **safe work environment**.

- SLO 12D.1.3.1: Demonstrate the safe use and care of bakery utensils, machines, and equipment.
- SLO 12D.1.3.2: Demonstrate knowledge of the importance of emergency planning procedures.
- SLO 12D.1.3.3: Demonstrate knowledge of how the Workers Compensation Act relates to the profession of baker.
- SLO 12D.1.3.4: Demonstrate knowledge of proper fire extinguishing operations.
- SLO 12D.1.3.5: Demonstrate knowledge of the role of Workplace Safety and Health and the procedures to follow in case of an incident (e.g., slips and falls, improper lifting, etc.).
- SLO 12D.1.3.6: Demonstrate knowledge of the Workplace Hazardous Materials Information System (WHMIS) and safety regulations.
- SLO 12D.1.3.7: Demonstrate the ability to access WHMIS information.
- SLO 12D.1.3.8: Demonstrate knowledge of regulations and safety programs such as Good Manufacturing Practices (GMP) and Hazard Analysis and Critical Control Points (HACCP), and the product recall process.
- SLO 12D.1.3.9: Demonstrate the ability to inform customers of health risks.
- SLO 12D.1.3.10: Demonstrate the ability to identify and report potential hazards.

- SLO 12D.1.3.11: Demonstrate the ability to identify and report problems related to rodents and other pests.
  - SLO 12D.1.3.12: Demonstrate knowledge of PPE such as goggles, rubber gloves, shoes, oven mitts, and pads.
  - SLO 12D.1.3.13: Demonstrate knowledge of safety equipment such as fire extinguishers, first aid kits, and eyewash stations.
  - SLO 12D.1.3.14: Demonstrate the ability to locate PPE and safety equipment.
  - SLO 12D.1.3.15: Demonstrate the ability to identify worn, defective, and expired PPE and safety equipment.
  - SLO 12D.1.3.16: Demonstrate the ability to adjust PPE for individual use.
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**Goal 2: Demonstrate the safe and appropriate **operation, cleaning, maintenance, and storage of baking equipment and utensils.****

**GLO 2.1: Demonstrate the safe and appropriate **operation of baking equipment and utensils.****

- SLO 12D.2.1.1: Demonstrate the safe and appropriate operation and/or use of tools and equipment associated with the production of advanced baked goods and pastries.
  - SLO 12D.2.1.2: Demonstrate the ability to use modeling tools.
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**GLO 2.2: Demonstrate the safe and appropriate **cleaning, maintenance, and storage of baking equipment and utensils.****

- SLO 12D.2.2.1: Demonstrate the safe and appropriate cleaning, maintenance, and storage of tools and equipment associated with the production of advanced baked goods and pastries.
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**Goal 3:** Demonstrate an understanding of **bakery ingredients, components, recipes/formulations, and products, as well as their nutritional qualities.**

**GLO 3.1:** Demonstrate an understanding of **bakery ingredients**, and how their characteristics are used to design **formulations** and prepare bakery products.

- SLO 12D.3.1.1: Demonstrate knowledge of ingredients and their functions as used in advanced baking and pastries.
  - SLO 12D.3.1.2: Demonstrate knowledge of gelatin and gum characteristics.
  - SLO 12D.3.1.3: Demonstrate knowledge of white chocolate.
  - SLO 12D.3.1.4: Demonstrate knowledge of milk chocolate.
  - SLO 12D.3.1.5: Demonstrate knowledge of dark chocolate such as semi-sweet, bittersweet, and cocoa mass.
  - SLO 12D.3.1.6: Demonstrate knowledge of properties and applications of chocolate and cocoa powder.
  - SLO 12D.3.1.7: Demonstrate knowledge of melting points and maximum allowable temperature for chocolate.
  - SLO 12D.3.1.8: Demonstrate knowledge of effects of moisture on chocolate.
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**GLO 3.2:** Demonstrate an understanding of **recipes/formulations** used in baking.

- SLO 12D.3.2.1: Demonstrate an understanding of the recipes/formulations used in advanced baking and pastries.
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**GLO 3.3:** Demonstrate an understanding of the characteristics of **bakery components and products.**

- SLO 12D.3.3.1: Demonstrate knowledge of types of garnishes such as rolled fondants, marzipans, pastillage, and croquants.
  - SLO 2D.3.3.2: Demonstrate knowledge of available decorations such as commercially produced items and items produced on site.
  - SLO 12D.3.3.3: Demonstrate knowledge of final use of advanced baking and pastry products.
  - SLO 12D.3.3.4: Demonstrate knowledge of different uses of garnishes.
  - SLO 12D.3.3.5: Demonstrate knowledge of applications of boiled sugar.
  - SLO 12D.3.3.6: Demonstrate knowledge of soaking syrup and caramel.
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**GLO 3.4:** Demonstrate an understanding of **nutrition**.

SLO 12D.3.4.1: Demonstrate an awareness of health and nutritional information as it relates to advanced baked goods and pastries.

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**Goal 4:** Demonstrate the appropriate **receiving, handling, quality assurance, packaging, storage, and inventory control** of baking ingredients and baked products.

**GLO 4.1:** Demonstrate the appropriate **receiving, handling, quality assurance, packaging, storage, and inventory control** of baking ingredients and baked products.

SLO 12D.4.1.1: Demonstrate the appropriate receiving, handling, quality assurance, packaging, storage, and inventory control of advanced baked goods and pastries.

SLO 12D.4.1.2: Demonstrate knowledge of garnish holding requirements.

SLO 12D.4.1.3: Demonstrate the ability to hold and store chocolates.

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**Goal 5:** Demonstrate the appropriate **preparation (mise en place), mixing, make-up, baking, finishing (or decorating), and presentation** of baking ingredients and products.

**GLO 5.1:** Demonstrate the appropriate **preparation (mise en place), mixing, and make-up** of baking ingredients and products.

SLO 12D.5.1.1: Demonstrate knowledge of the sugar-boiling process.

SLO 12D.5.1.2 : Demonstrate knowledge of mixing and cooking procedures.

SLO 12D.5.1.3: Demonstrate the ability to monitor temperature.

SLO 12D.5.1.4: Demonstrate the ability to select and prepare ingredients.

SLO 12D.5.1.5: Demonstrate the ability to determine readiness of product.

SLO 12D.5.1.6: Demonstrate the ability to adjust the thickness and colour of garnishes.

SLO 12D.5.1.7: Demonstrate the ability to adjust the colour of decorating pastes.

SLO 12D.5.1.8: Demonstrate the ability to taste and flavour garnishes and decorating pastes.

SLO 12D.5.1.9: Demonstrate the ability to model and work with pastes such as gum paste and modeling chocolate.

SLO 12D.5.1.10: Demonstrate the ability to change physical characteristics of garnishes using methods such as grinding, cutting, and grating.

SLO 12D.5.1.11: Demonstrate knowledge of chocolate-tempering methods.

SLO 12D.5.1.12: Demonstrate the ability to temper chocolates.

SLO 12D.5.1.13: Demonstrate knowledge of boiling stages and temperatures of sugar.

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**GLO 5.2:** Demonstrate the appropriate **baking** of various products.

SLO 12D.5.2.1: Demonstrate the ability to bake advanced baking and pastry products such as specialty cakes.

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**GLO 5.3:** Demonstrate the appropriate **assembly, finishing, and decorating** of baked products.

SLO 12D.5.3.1: Demonstrate the ability to assemble, finish, and decorate cakes, gateaux, and tortes.

SLO 12D.5.3.2: Demonstrate the ability to create various garnishes such as rolled fondants, marzipans, and croquants.

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**GLO 5.4:** Demonstrate the appropriate **presentation** of baked products.

SLO 12D.5.4.1: Demonstrate the appropriate presentation of advanced baking and pastry products.

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**Goal 6:** Understand **career opportunities** in baking.

**GLO 6.1:** Describe **apprenticeship, education, and career opportunities, as well as professional organizations** in the baking industry.

SLO 12D.6.1.1: Demonstrate knowledge of career opportunities related to advanced baking and pastries, including the professions of chocolatier, confectioner, cake decorator, etc.

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**Goal 7:** Describe and demonstrate the transferable, **cross-curricular** knowledge and skills as they pertain to baking.

**GLO 7.1:** **Read, interpret, and communicate** information relevant to baking.

SLO 12D.7.1.1: Demonstrate knowledge of the types of documents.

SLO 12D.7.1.2: Demonstrate the ability to read, understand, and follow recipes, formulations, and directions.

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**GLO 7.2:** Apply **mathematics** knowledge and skills relevant to baking.

SLO 12C.7.2.1: Demonstrate the ability to convert between Celsius and Fahrenheit.

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**GLO 7.3:** Apply **science** knowledge and skills relevant to baking.

SLO 12D.7.3.1: Demonstrate an understanding of changes of states of matter.

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**GLO 7.4:** Apply **other subject areas** (French, physical education/health education, information communication, and technology) knowledge and skills relevant to baking.

SLO 12D.7.4.1: Demonstrate an awareness of the creativity required in cake decorating, plating techniques, and chocolate work.

SLO 12D.7.4.2: Demonstrate an awareness of the French words used in advanced baking and pastries.

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**Goal 8:** Demonstrate awareness of **sustainability** as it pertains to the baking industry.

**GLO 8.1:** Describe the impact of **human sustainability** on the health and well-being of bakers and consumers of baked products.

No applicable SLOs.

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**GLO 8.2:** Describe the baking industry's sustainability practices and impact on the **environment**.

SLO 12D.8.2.1: Demonstrate knowledge of the effects of the cultivation of cocoa beans on the environment.

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**GLO 8.3:** Describe **sustainable economic practices** within the baking industry.

SLO 12D.8.3.1: Demonstrate an awareness of fair-trade practices as they relate to the cultivation of cocoa beans.

SLO 12D.8.3.2: Demonstrate knowledge of the economic viability of specialized baking and chocolate shops.

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**Goal 9:** Demonstrate awareness of the **ethical and legal standards** as they pertain to baking.

**GLO 9.1:** Apply the **ethical and legal standards** as they pertain to baking.

SLO 12D.9.1.1: Demonstrate knowledge of basic regulations regarding substitution of ingredients.

SLO 12D.9.1.2: Demonstrate knowledge of regulations related to weights and measures.

SLO 12D.9.1.3: Demonstrate awareness of employment conditions as they relate to the cultivation of cocoa beans.

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**Goal 10:** Demonstrate the **employability skills** related to the baking industry.

**GLO 10.1:** Demonstrate **fundamental employability skills**.

- SLO 12D.10.1.1: Demonstrate employability skills (e.g., being prepared for work on time, setting up workstations, staying on task, accepting responsibility for one's actions, etc.).
  - SLO 12D.10.1.2: Demonstrate professional dress code.
  - SLO 12D.10.1.3: Demonstrate the skills required to work as a member of a team.
  - SLO 12D.10.1.4: Demonstrate initiative in performing and completing tasks.
  - SLO 12D.10.1.5: Demonstrate the ability to communicate with professionals such as co-workers, suppliers, and service professionals.
  - SLO 12D.10.1.6: Demonstrate the ability to communicate with supervisors/teachers, co-workers, and customers in an effective manner.
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**GLO 10.2:** Demonstrate an understanding of the **business operation** of a bakeshop.

- SLO 12D.10.2.1: Demonstrate knowledge of the different temperature requirements for chocolate production and baking.
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**Goal 11:** Understand the **evolution and technological progression of, and the emerging trends in** baking.

**GLO 11.1:** Describe the **evolution and technological progression of, and the emerging trends in** baking.

- SLO 12D.11.1.1: Demonstrate knowledge of the evolution of advanced baking and pastries.
  - SLO 12D.11.1.2: Demonstrate knowledge of the technological progression of, and the emerging trends in advanced baking and pastries.
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